

THE CHEMIST

SEPTEMBER 1950

VOLUME XXVII No. 9



DR. GUSTAVUS J. ESSELEN

New AIC Councilor
(See page 341)

Important Membership Action Requested!
(See Page 345)

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SCHEDULED FOR EARLY ISSUES

Determination of Wages for Chemical Engineers and Chemists, by Dr. Robert S. Aries, F.A.I.C., and William Copulsky
Chemists Over Forty-five, by Herbert F. Schwarz, F.A.I.C.
Employment Discrimination in the Chemical Industry, by Albert J. Weiss
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The Increasing Responsibilities of the Chemist, by Ralph Lamenza, F.A.I.C.
Report of the Committee on Patents

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COVER PICTURE

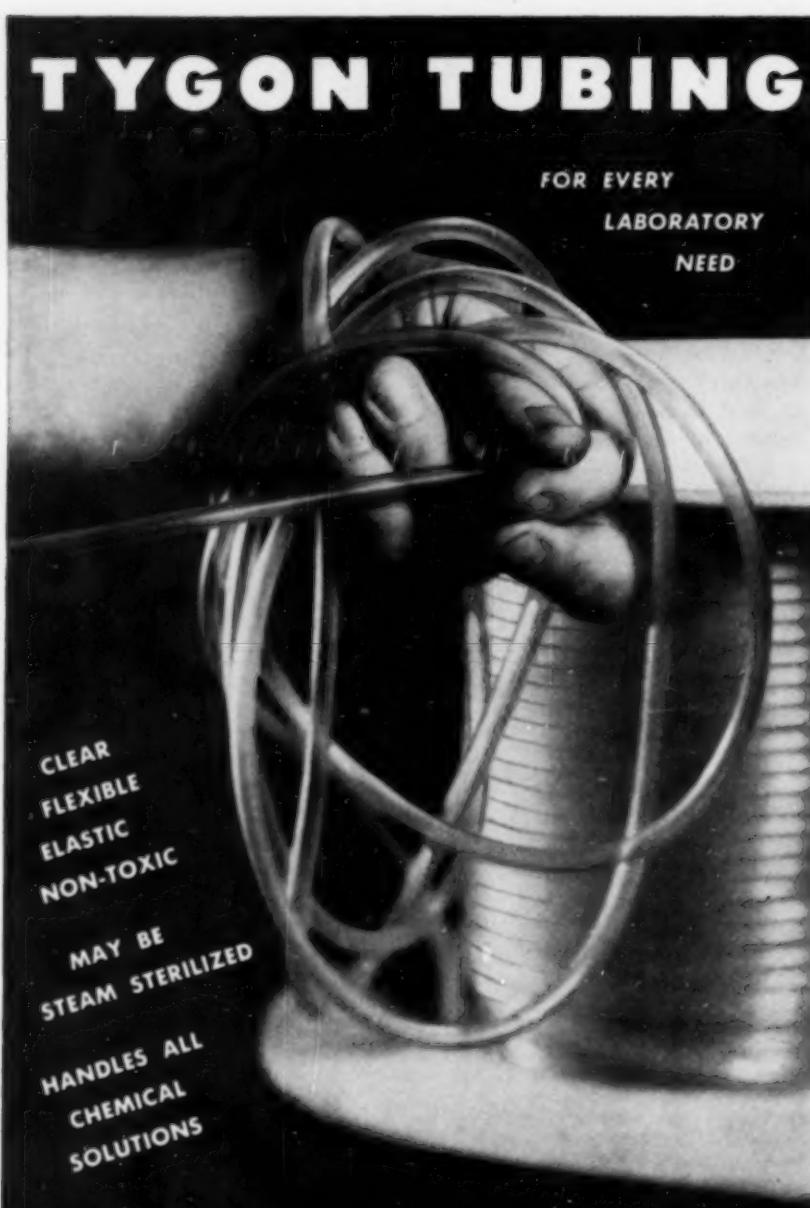
Dr. Gustavus J. Esselen, new AIC councilor-at-large, is vice president of the United States Testing Company, in charge of the Esselen Research Division, Boston, Mass. He was born in Roxbury, Mass. He received the A.B. (magna cum laude), A.M. and Ph.D. degrees from Harvard University.

He was a member of the research staff of General Electric Company until 1921, when he became vice president and director of research for Skinner, Sherman & Esselen, Inc. In 1930, he became president of Gustavus J. Esselen, Inc., consulting chemists and chemical engineers, in Boston, followed by the presidency of the Esselen Research Corporation, which, in 1949, became the Esselen Research Division of the United States Testing Company, Inc.

Dr. Esselen has been active in many professional and scientific societies. He received the Modern Pioneer Award from the National Association of Manufacturers in 1940. He was chairman of the Massachusetts Board of Registration of Professional Engineers and of Land Surveyor in 1943 and 1948; Major and Lt. Col. in the Chemical Warfare Service, 1925-1940; chairman of the Board of Trustees, Swampscott Public Library (1928-1938); past president of the Lynn Council on Religious Education; consultant to the Baruch Rubber Survey Committee in 1942; a member of the Chemical Referee Board of the Office of Production Research and Development, 1942-1945; chairman of the Tropical Deterioration Administrative Committee, Office of Scientific Research and Development, 1944-1946; member of the Division of Chemistry and Chemical Technology of the National Research Council, 1937-1939 and 1940-1942, and trustee of the Permanent Trust Funds, Northeastern Section, American Chemical Society. On March 20, 1950, he was awarded Honorary Membership in THE AMERICAN INSTITUTE OF CHEMISTS. (See July, 1950, issue of THE CHEMIST, page 266.)

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EDITORIAL

New York Chapter Employment Agency

President Lawrence H. Flett, AIC.

ONE of the greatest impelling forces among chemists is the urge to accomplish. The ability of the chemist to satisfy that driving force necessarily depends upon a combination of technical skill, available materials, adequate equipment and successful management. To the average chemist, this means employment by some large industrial concern or by some well-equipped laboratory.

Those chemists fresh from the university, who have the good fortune to choose a position where they can do creative work, should establish a reputation which will assure a better future than can be obtained by moving from one organization to another. Unfortunately, the chemical graduate is poorly equipped to gauge the value of laboratories, and many good men, through no fault of their own, discover far too late that they are in a position where they can accomplish little. When a chemist's progress stops, there is a resignation or discharge which puts on the market a man with a meagre amount of general knowledge but with a considerable

amount of skill of a highly specialized nature.

Chemistry is a very broad name. There is no one person or group of people who know everything that there is to know about chemistry. For this reason, the profession of chemistry is made up of a group of specialists who have outstanding skill in a very limited field.

If the chemist is forced to change fields, much of the value of his specialization is lost, but it is often difficult for a chemist to find a position where he can do creative work in the particular field where he is a specialist. It is equally difficult for chemical organizations to find a man with specialized knowledge.

The New York Chapter of the INSTITUTE is now seeking to bring these two together by the creation of an employment agency. This agency is to be more than a listing agency. It is to be in the charge of a man who understands the problems of chemistry and who has a knowledge of industry which will permit him to fit the square peg in the square hole. The new agency is not intended for

chemists who are going on a fishing expedition to explore the employment field, but for companies that are seeking chemists with knowledge of a particular field, and for those chemists who need a highly specialized position to make full use of their experience.

It is the belief of the INSTITUTE that this project is properly supported by the men who benefit from it. Once the office is established it is intended that it should be self-supporting. The establishment of the office depends on the sympathetic understanding and the generous response from the members of the INSTITUTE, all of whom are very conscious of the seriousness of the problems of the unemployed chemist. (See page 345).



Chemistry Section of A.A.S. to Meet

The Chemistry Section (Section C) of The American Association for the Advancement of Science will be held December 26th to 30th inclusive, at the Allerton Hotel, Cleveland, Ohio. Reservations should be made promptly with the Hotel.

Tuesday, December 26th, will be devoted to industrial tours of interest to chemists, which are being arranged by Dr. Gebhardt of the Cleveland Health Museum. Wednesday is being held open for sessions dealing with general papers. Those wishing to present papers at this meeting

should advise Dr. Ed. F. Degering, Secretary, Miner Laboratories, 9 South Clinton Street, Chicago, Illinois, and provide him with a copy of an abstract and the completed paper (if possible) by the first of November.

A symposium on Steroids is being arranged for Thursday by Dr. Hal G. Johnson of Monsanto Chemical Company; one on Inorganic Chemistry, arranged by Dr. Conard Ferneilius of Pennsylvania State College is scheduled for Friday, and an evening session on Medicinals is planned by Dr. Herbert Carter of the University of Illinois and Stanton A. Harris of Merck and Co., Inc.

The Saturday program consists of an all-day symposium on insecticides, arranged by Dr. Hal G. Johnson, and an all-day session on Ballistics, which is being arranged by Prof. Ralph F. Turner of Michigan State College. Dr. Roger Adams, president, will speak at the Saturday noon luncheon.

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An Employment Project

Summary of Extensive Detailed Committee Reports and a Request for Membership Action.

CHEMISTS of experience and stature who seek employment frequently find it difficult to make contact with potential employers. Individuals and corporations seeking experienced chemists have just as much difficulty in making contact with potential employees. To promote their common aim, a means of bringing these two groups together is proposed.

Since the Spring of 1949, the New York Chapter of THE AMERICAN INSTITUTE OF CHEMISTS has studied the possibility of establishing an employment agency to place chemists. Its committee* has reached certain conclusions, and in collaboration with a committee appointed by the National Council, has examined pertinent legal questions. The establishment of an agency is projected. The following highlights of a plan are offered for your consideration.

1. A fee - charging, self - supporting agency for chemists.
2. Its success will depend on (a) active moral support of the AIC, (b) appointment of a well-qualified director, (c) sufficient funds to operate twelve months, regardless of anticipated income.
3. The plan has been assured support of the AIC by resolutions of the New York Chapter and National councils, and it is anticipated the

response to the attached form will show strong membership approval. It is assured of the services of a qualified man to direct the proposed agency.

4. It is estimated that a working capital of twenty thousand dollars is required to assure continued operation.
5. It has been determined that no part of this amount can be raised through grants or loans from philanthropic foundations and that no part can be borrowed from business-loan associations or banks.
6. The committee believes the AIC members should have the first opportunity to support this program, although there are several other financial sources to which appeal might be made.

The plan calls for the creation of a separate corporation whose principal purpose will be to aid all members of the profession to find suitable employment, and to find qualified employees for industry, schools and scientific institutions.

It will be a corporation from which no individual shall derive a profit, charging legal fees or less, as may be necessary to maintain efficient, successful operation. Sponsored by the AIC, and controlled by a board of directors authorized by the AIC, its service to the profession must meet with the approval of the Institute.

The committee has studied the operation of several technical employment agencies, some privately owned,

*W. J. Baetz, chairman; Maurice L. Kelley, ex officio; J. T. Bashour, L. H. Flett, K. M. Hershman, H. B. Hodge, Martin Meyer, A. J. Nydick,

others associated with professional societies. It estimates on a conservative basis that income will quickly exceed expenditures, so that in three years all outstanding indebtedness can be retired and ample working-capital established to assure continued operation. Now, only sufficient funds are needed to start an agency that will offer a much-needed service to the profession and industry.

The agency can begin to function immediately, if as few as five hundred members contribute no more than forty dollars each. It is believed that many will make much larger contributions, but that each member will give something to make this truly an AIC service to the chemical profession.

Some who may be prevented by other obligations from offering an

amount comparable to the significance of so important an undertaking, may wish to make substantial loans. Such loans will be secured only by the anticipated income of the newly-created agency. However, the committee's investigations indicate that this is an excellent opportunity to invest in the future of the profession, in a service of value to every chemist, and to the chemical industry. They indicate that the envisioned corporation will be able to retire its obligations promptly when due, and later to return all contributions.

This Is a Call for Action

The committee desires to learn immediately how much the members want this service. It therefore requests each member of the AIC to return promptly the following questionnaire:

Fill Out This Form and Mail it Promptly to

The American Institute of Chemists
60 East 42nd Street, New York 17, N.Y.

I believe the Employment Project should be initiated.
I believe the Employment Project should not be initiated.

When ready, the new corporation may bill me for \$_____, which I will contribute to the working capital required.

When and if issued, I will purchase \$1,000,
(No. of notes)

\$500, \$100, five year, 5% promissory
(No. of notes) (No. of notes)
note(s) callable in two years, to help capitalize this project.

Signature _____ *

Address _____

*I reserve the right to rescind this pledge, if any answer to my questions or published information reveals material facts about this project which do not meet with my approval.

Presentation of Honorary Membership to Dr. Withrow

President Lawrence H. Flett, AIC.

HONORARY membership in THE AMERICAN INSTITUTE OF CHEMISTS is a recognition of service to our profession. The growth of the chemical profession to its present stature represents the sum total of the effort of each and every person in the profession. Some members of the profession have participated but little in the growth of the profession. Others have had a great deal of influence in building it up to its present respected position; the course and the growth of the profession have been affected for all time by their generous contributions to it.

The contributions which teachers make to the profession through a lifetime of unselfish service is so great that one seriously wonders if all retiring professors should not be made Honorary Members of THE AMERICAN INSTITUTE OF CHEMISTS.

A high proportion of the Honorary Members of the INSTITUTE have devoted their lifetime to the teaching of chemistry or chemical engineering. During the past two years, six names of great educators have been added to our list of Honorary Members. These men have been selected because it is felt that their proud devotion to their students and to their science has had a profound effect on the



Dr. James R. Withrow

whole course of chemistry.

Dr. Withrow has been one of our Fellows who has won particular distinction through his life-long teaching career. As a teacher he has been able to inspire his students with a spark of genius so that they themselves have become creative chemists. His students have been a credit to him and to the great university from which they came.

To many of the rest of us, frien-

ship with Dr. Withrow has, indeed, been fruitful. His advice, his ideals, his sincerity and his tolerance, have been an inspiration to those of us who have been fortunate enough to be associated with him.

James Renwick Withrow, F.A.I.C., THE INSTITUTE admires the

part you have played in molding the chemical profession. Your many years of devoted service have been a valuable contribution to the progress of chemistry and chemical engineering from which we all benefit. The INSTITUTE recognizes this service to the profession by making you an Honorary Member.

Dr. Withrow—Professor of Chemical Engineering and Character

(The information in this sketch is a composite of that presented by speakers at the Ohio Chapter meeting when Honorary AIC Membership was awarded to Dr. Withrow.)

DR. JAMES R. WITHROW, consultant, is emeritus professor of chemical engineering and emeritus chairman of Ohio State University.

He was born in Philadelphia, Pennsylvania, August 29, 1878. He obtained the Ph.D. degree in 1905 from the University of Pennsylvania. The Hon. D.Sc. degree was conferred on him by Geneva College.

He taught the first laboratory work in industrial chemistry at Illinois under Professor Parr. He developed the laboratories and the senior work in chemical engineering at Ohio State University. There, too, he developed the graduate work in chemical engineering, in which over two-hundred graduate students have been trained. At a single June Commencement, he had eleven Ph.D.

graduates. The chemical engineering inspection trips to industry which he organized and conducted for forty years at Ohio State are conceded to be the high-water mark of this form of education.

Always highly conscientious in his efforts to give his students the best possible training, Dr. Withrow can well be proud of these students today. They are respected everywhere and hold high positions—presidents, vice presidents, deans, professors of chemical engineering and of chemistry, chairmen of departments, and directors of research, presidents and officers of scientific and technical societies, both here and abroad. All four major synthetic rubber plants of World War II were managed by his graduates. Industry admits that it

DR. WITHROW . . .

expects of Dr. Withrow's graduates that they know how to work, how to organize, how to write reports, and how to pursue individual research.

Uncompromising in his devotion to integrity, Dr. Withrow goes out of his way to arouse the ire of student, or industry worker, or executive, who will not work, who is a careless thinker, or careless of safety, or engaged in illegal or unfair practices. However, he is quick to understand that mistakes can be made, and he admits readily his own on those rare occasions when they occur. He is extremely loyal to "his boys" and seldom fails to go to bat for them. They seldom fail to go to bat for him, if he needs them and will permit it. He will extend himself to help those in difficulties, whether friend or foe. He will stand up and be counted. He is not cowed by power. He is a friend of both corporation and worker, well-knowing that cooperation and understanding will benefit both. His personal friends are hard workers and keen-minded leaders, and he has a host of friends in industry as well as in higher education.

Dr. Withrow is also known through many years for the important assignments he has held in industry, in explosion and insurance investigations; coal tar and its chemicals; patent litigation; trade waste and its litigation; the first manufacture of pyridine in this country in 1901 (Barrett Co.); standard test

development for coal tar and pitch (Barrett Co.) 1902, as director of its research laboratory under Harry W. Jayne 1901-1903; work in textiles (rayon) and in tires (World War II); sugar processing; adhesives; pioneer work in synthetic phenol; super refining of benzol; toluol; with aniline, naphthaline and wood distillation (with E. H. French); acetic acid; lime-sulfur; bitumen; activated carbon (with Barneboy and Demorest); small scale manufacture World War I (C.W. S.); centrifugal pumps; and development of University laboratory work in testing material.

Dr. Withrow has given many lectures throughout the United States, England, and Germany. He was four times elected director of the American Institute of Chemical Engineers. He has been president of the Mineralogical Society of Philadelphia, and of the Engineers Club of Columbus. He is an Honorary Member of the American Engineering Education Society and of the Mead Technological Society. He was chairman of the First Technical Session of the International Congress of Chemical Engineering, London, England, in 1938. He was a member of the American Advisory Council to Yenching University, Peiping, China. He is also a member of some sixteen other professional and technical societies.

The New Safety—Higher Safety

Dr. James R. Withrow, Hon. AIC

Professor Emeritus; Consulting Chemical Engineer

(Excerpts from Dr. Withrow's talk on the occasion of the award of Honorary AIC Membership to him in Cleveland, Ohio.)

BOTH the election by the National Council of THE AMERICAN INSTITUTE OF CHEMISTS to Honorary Membership, and this presentation of the Honorary Membership by AIC President Flett are deeply appreciated. Also all the work and arrangements by the local Chapter membership are appreciated and especially the courtesy of the group flying or coming from New York, from Dayton, from Columbus, from Michigan.

The kindness of the arrangements committee in calling on former students as well as others of high place in industry and of our university, and all their friendly words, remind one of the good old days, when everything, however, was not mush and molasses. Those were stout times and they had stout men. Among us we kept chemical engineering alive in a university whose dominant college was Arts and Sciences, and other engineering was not always too progressive. We saw to it that chemistry was maintained as a vital foundation.

The telegrams and letters from former employers, associates, even

from War I Chemical Warfare, and from former students, which still keep coming in, are priceless. For these additional sparks in a wonderful life time, I thank you. It is a great life. It could easily have terminated many times in the various hazards since it nearly passed out while I was putting pyridine into manufacture for the first time in this country, nearly fifty years ago. I never let my men do anything I did not do myself. This has saved no small number of lives!

Dr. Donald Keyes once said in a chemical meeting that a medal was earned by one's coworkers, but an Honorary Membership was up to a man's ownself as he survived the critical scrutiny of his fellows through the years. If this is true, the honor is the more appreciated, for it really represents the INSTITUTE's nature and disposition. THE AMERICAN INSTITUTE OF CHEMISTS exists because it is interested in everyone of you, in everyone of us. This mutual interest in one another and in our neighbors is what makes a profession.

THE NEW SAFETY . . .

I have, I hope, a profound belief in the Hebrew idea of Honors, in Psalm 49, "Man that is in honor and understandeth not, is like the beasts that perish." So unsought honor is honor indeed. Credit will find you out even though others seek it for themselves.

When my friends realized that I must have a job to eke out the University's one day's wages per month, and since most of my consultant employers were dead, they asked, "What kind of experience have you had?" Had I told them, they would have thought me a Methuselah, for I went to the University to take mining engineering and was forced into chemistry. I am now a chemist, a chemical engineer, and a mineralogist, and when I am called in, a consulting technologist.

(At this point Professor Withrow tied his experiences as a manufacturer and consultant into a summary of "Safety in a New Era—the Higher Safety," which he has been teaching or inculcating to his students for many years; and which may be published later.)

All Personal Experience is Valuable

Our past personal experience is invaluable for safety. This is true for everyone of us and in my case reveals to me how these past experiences teach valuable lessons for the future. I am still grateful for all of mine. Without it, I could not have achieved the development, at Illinois and then at Ohio State, of useful courses in

chemical technology or industrial chemistry laboratory (45 years ago); plant design on the drawing board (43 years ago); week-long chemical engineering inspection trips; chemical engineering materials and testing; report writing, etc., all from the engineering and plant point of view. This raised our chemical engineering undergraduate classes from four to between one and two-hundred; and graduate students from none to between one and two-hundred. We gave more zero's for reports, and more work, than any department in the university (which did not win us too many friends), but we always gave the recipient a fair chance to wind up with an A grade if he worked. A report always got Zero for arithmetical error, chemical error, or careless thinking, no matter how fine its appearance.

My teaching experience was founded on a wide variety of work, but was only possible because of sympathetic superiors here and there, and upon most helpful associates and a fine group of student material. Help was not always plentiful. That June Commencement when Professor Joseph H. Koffolt got the Ph.D., I had eleven Ph.D.'s and no Koffolt to help me!

Now for some of the basic experiences which paid dividends later: (a) Work at home and about the place with parents. This was tough but insufficient! (b) Selling news-

papers. Bad weather caused me to quit! (c) Rope-walk. Hemp cord uniformity. I was ten years old. I got fired for lack of reliability because I watched the fire engines pass instead of the machinery. It was a good lesson! (d) Gold jewelry manufacturing: I was fired, the petty boss being "a big shot." I was still learning! (e) Printer's delivery, Old Ben Franklin area: Loading and unloading push-cart. It was hard work. I was well-liked, but the management prevented me from breaking into Gold Exchange banking. It was in the 1892 depression! (f) Pioneer Fast Black Dye dyeing work.

On Building Reputation

I found that building a reputation was not too difficult, and often I realized better than I deserved. Because I remembered Tasso's *Opus*, I was given an unearned reputation for history; repeating the *Ten Commandments* to a State Supreme Court justice gave me an undeserved reputation as an authority on the Bible; my knowledge of minerals as a graduate student gave me an unearned reputation for mineral analysis. Also an unearned organic chemistry reputation came through managing a manufacturing plant in that field. I have fully earned a reputation as a critic of programs in research, manufacture, development, safety, explosion, and patent contests.

My experience also included training as a blue-print boy and tracer;

railroad surveying, and the design of railroad right-of-way equipment. My great experience came with my work at the Barrett Company. Here I was an avid learner of management training, management, development, the grave dangers to management; the responsibilities of managing labor and technical men; the protection of labor from management, and vice versa; testing and research development, and organization. The competitive problems led to patent litigation, and here my curiosity and critical facilities were developed. Incidentally, my wages per month for the first two years were \$60., and for the next two years, \$80.!

Other experience included the first pyridine manufacture in the United States (it cost me five months of paralysis); the development of extra C.P. benzol and toluol; synthetic phenol; development of the foundations of the present A.S.T.M. standard methods; water in tar, standard tests (the Barrett Publication Policy was better than the old Sayboldt Viscometer policy of restricted ownership of apparatus); tar standards; pitch standards; the development of modern naphthaline refining. I reported on the Captain Lucas Spindletop Texas gusher, the first far midwest petroleum; and the Penn Steel open hearth tar waterproofing of burnt dolomite grog.

My early work began in Cleveland in 1900 and I made many friends

THE NEW SAFETY . . .

here in industry from earliest times.

Several corporation officials in this area are my former students. Among them are, Paul Sprague, vice president of the Glidden Company; H. E. Fritz, vice president of the Goodrich Company; William Burt, vice president of Goodrich Company; Mr. Smootz, vice president of Standard Oil of Ohio; W. B. Pritz, vice president of Eveready Battery; and a little further away, E. C. Bain, vice president in charge of research and development of Carnegie Illinois Steel, Pittsburgh; J. H. Young, president H. H. Robertson Company, Pittsburgh; Harry Williams, vice president, National Cash Register Company; the late Harry Drackett, president, Drackett Chemical Company, Cincinnati. To the younger men, we should say: Every job no matter how lowly develops one's character.

The Hazards of Careless Thinking

In the University the unforgivable sin to me was wasting time and careless thinking, both serious safety matters. Careless thinking is the sin of a newspaper age. Robert Milligan fumes over the remark of a woman servant in a Brooklyn family that moved to the Pacific Coast. The children showed her the Pacific Ocean, saying it was far larger than the Atlantic. The servant replied, "Yes, I see it is!" This is a too-common view of science. My grandson, six years old, was asked, "What did

your cousin say that took so long on the phone?" He answered, "Words!" Yet there is depth to this! There is depth also to the story about our six-year old granddaughter, whose horizon was the New York City skyline and the timber line in the country. Upon a trip at sea, where the pure horizon surrounded her, she wrote, "I have seen all the stars!"

But we wonder what education and experience mean today when the greatest of Greek scholars, Dr. Moffat, in his version of Matthew 1, says "Joseph the father of Jesus" and then spends eight or nine verses showing what Joseph did to protect the good name of Mary because he was not the father of Jesus. Surely one-track scholarship. Also, when in Luke's narrative of the crucifixion, Moffat's version refers to the darkness from twelve noon until three p.m. "owing to an eclipse of the sun." Since a darkness eclipse lasts only a few minutes, this was propaganda against the supernatural, by inventing another miracle—an eclipse twenty times as long as a natural one. Or again, when Moffat has Paul, 2 Timothy, last chapter, ask for his cloak to be brought from Troas to Rome, and the Books, but especially the *paper* (singular). The authorized version says *parchments*. There was lots of paper in the commercial capital of the world, Rome. The original Greek uses the Latinism "membranous", particular papers or parch-

ments. (Luke's "Many writings.") Such things as these are read by thousands of students and scholars in this field, without notice. We cannot afford to do this in chemistry!

H. G. Wells reduces Methusaleh from 969 years to 80 by the simple assumption of error of months (moons) for years. But the same group of patriarchs by the same arithmetic begat their first offspring when as old as Lo! eight, six or three years, requiring a new supernaturalism to correct the "old".

The one-track minded scholar is just as dangerous to us in chemistry. Much indeed is owed by us all to great teachers. A lesson from one of them, the late Edgar Fahs Smith, was brought home to me, recently. An officer of an eastern institution, not knowing that I was a student of Dr. Smith, told me of a laboratory experiment which threatened Dr. Smith's eyesight. While in the hospital the physicians gave up all hope and told Dr. Smith so. That night Dr. Smith prayed: "Father, if it is Thy will that I go through life sightless, Thy will be done." In the morning, Dr. Smith spoke to the nurse by name. She said "You are learning fast to tell footsteps." Dr. Smith replied, "No, I see you." The nurse called the doctor, who after a few tests said, "This is impossible. There has been a miracle here." "Yes," Dr. Smith agreed, "It was a miracle." We can seldom expect such.

Honor or no honor, let us do something to be prepared for the future.

(For an account of the meeting at which Honorary Membership was presented to Dr. Withrow, (see page 369).

Bond to Armour Research

Dr. Rolston L. Bond, F.A.I.C. technical director of the Butadiene Division of Cities Service Refining Corporation, Lake Charles, Louisiana, has been named assistant chairman of the Chemistry and Chemical Engineering Department at Armour Research Foundation of Illinois Institute of Technology. Dr. Bond will be in charge of the Foundation's biochemistry and organic chemistry research activities. He has been with Cities Service since 1943, and prior to that with Tidewater Associated Oil Company and the National Oil Products Company. He received the Ph.D. degree from Pennsylvania State College in 1940.

AOCS Meeting

The American Oil Chemists' Society announces that one of the finest technical programs ever arranged by it will be given at the Fall meeting in San Francisco, September 26-28th, at the Sir Francis Drake Hotel. E. B. Kester is general chairman and H. S. Olcott is program chairman. Both are with the Western Regional Research Laboratory at Albany, California.

Communications

A New and Significant Contribution to Glass Science

To President Flett:

Researches have resulted in several new radiation-absorbing glasses in the University of Pittsburgh which seem to possess immediate importance for protecting the eyes of atomic-energy, atom-bomb and hydrogen-bomb workers to prevent radiation cataracts, from which some workers have already suffered. Also, they would seem to be desirable for the populace at large in case direct or wafted radiations should result from atomic-bomb or hydrogen-bomb attacks, or from atomic-energy plants which are already in contemplation or under construction by manufacturers of electric equipment. Cyclotrons, betatrons, etc., have been built at a number of universities and by the United States Government. Here, again, workers should be afforded every possible protection.

The first glass is a high-energy X-ray or gamma-ray absorbing glass containing tungsten phosphate. Its radiation-absorbing power is fifty percent greater than that of previously existing commercial X-ray shielding glass. Furthermore, it does not discolor on exposure to the rays. This glass was developed by Joseph J. Rothermel, Kuan Han Sun, and the writer.

The second glass is a slow-neutron absorbing glass, containing cadmium borosilicates with fluorides. Its slow-neutron absorption is one-third that of pure cadmium sheets which is opaque. In other words, the new glass in a layer three times as thick as cadmium sheet affords equal but transparent protection for the eyes against slow neutrons. This glass was developed by Laben Melnick, Hurd W. Safford, Kuan Han Sun and the writer. To the best of my knowledge, it is the world's first neutron-absorbing glass.

Both glasses should prove desirable for heavy transparent laminated peep-holes in the safety barriers in atomic-energy plants. They could be used in optical instruments which are employed in these plants and in science laboratories where radiation studies are made.

Goggles containing laminated lenses for both X-ray and neutron absorption are a possibility, or single lenses might be worn for protection against X- or gamma-rays only.

The investigators have all received their advanced degrees from the University of Pittsburgh.

Dr. Kuhn Han Sun got the Master's and Doctor's degrees after obtaining the Bachelor of Science in China. He is an American citizen. After obtaining the Ph.D. degree, he

entered Eastman Kodak Company's research laboratory where he conducted investigations on new optical glasses. At present, he is on Electronic and Nuclear Research for Westinghouse Electric Corporation, spending some of his time in the University of Pittsburgh's Cyclotron. He and Mrs. Sun have published a number of important articles on the radiation-absorbing properties of the chemical elements in glass. I consider him the world's greatest living theoretician in the glass field.

Dr. Safford graduated from Alfred University before coming to Pittsburgh for the Doctor of Philosophy. His doctorate research was on glass and he has helped to direct researches on glass for graduate students. He is associate professor of chemistry.

Dr. Rothermel, who worked on the X- and gamma-absorbers, entered Corning Glass Works' research laboratories after getting the Doctor's degree. The Bachelor of Science degree was obtained at Franklin and Marshall College.

Laben Melnick obtained the Bachelor of Science degree from the University and after doing the work on the neutron absorber, got the Master of Science degree.

I feel that the production of the high-energy X-and Gamma-ray-absorbing glass, and the neutron absorber, are the most significant contributions in glass science made by the

University of Pittsburgh during my forty-five years of service to my Alma Mater.

—Dr. Alexander Silverman, F.A.I.C.
Head, Department of Chemistry
University of Pittsburgh

Security and Surroundings

To Mr. Everett:

I read your comment to the Editor (January CHEMIST, page 14) with great interest. It is surprising to me that there are persons who read my paper that have been impressed with the single thought that I have emphasized "security" and "desirable surroundings" above all else in selecting a job. These were two items . . . among many others which were discussed . . .

I cannot say that I really understand your statement, "It pays to work in unsatisfactory surroundings which eventually bring a small business into a big one." Try as I may, I find it impossible to discover any correlation pointing to your conclusion that a small business will develop into a big one if unsatisfactory surroundings represent the working conditions. On the contrary, I should expect growth of a business to occur more effectively if working conditions are in favor of such growth. To me, and I worked in industry for several years and had connections with the paint industry, too, the conditions which would favor such growth are

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the same conditions which would make for satisfied employees. It is true that sometimes, particularly during the beginning of the growth of a company, conditions may not be as pleasant as they might. Certainly, however, efforts should be made by management to demonstrate to their employees that improvement is always under consideration and accomplished when feasible.

Perhaps we do not see eye-to-eye on these things, but I know that if

I found myself working for a company at which I felt there was no job security, where undesirable surroundings were excused by calling them "pioneer" conditions, and the other criteria which I mentioned in my paper were not considered, I should hastily seek employment elsewhere.

I hope sincerely that I have misunderstood your letter and look forward to a clarification of these points.

—Prof. Howard Nechamkin,
M.A.I.C.

Annual Report of the President

(Presented May 11, 1950)

TODAY we are holding the Twenty-Seventh Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS. The business meeting is part of a two-day meeting carrying out the expanded meeting idea started last year. This is our Mid-Century Meeting, and the general theme of the program is the discussion of trends. Your thoughts and comments regarding the improvement of these meetings are very earnestly requested.

During the past year, the chapters of the INSTITUTE have continued to be strengthened. Each year finds higher standards established. During the past year, all members have been made members of one of the INSTITUTE chapters. A New England Chapter was organized during the past year and the new Ohio Chapter has started operations. All of the chapters have done a fine job; the New York Chapter under Dr. Meyer has continued its very rapid development. Much of the advance of the profession is carried on at the chapter level.

A particular effort has been made during the past year to have the chapters represented at Council meetings. It has been possible to hear from each chapter representative. In this way, each chapter has acquired a better knowledge of the activities in the other chapters. The mutual exchange of information has helped all of the chapters.

The chapters have continued their co-operation with the schools, and a notable committee has been set up by the New York Chapter to provide advice to any chemist who needs information of professional character. The President has participated in meetings with five of the chapters.

The membership of the INSTITUTE is at an all-time high of 2460. The rolls have been strengthened by the addition of a group of new members with fine technical and professional reputations.

During the year, a letter was sent to each member asking for help in bringing new members who are interested in the advance of the profession. The cooperation of the members was sincerely appreciated. Through this help, a very desirable group of new members was added to the rolls.

The INSTITUTE has continued its efforts to bring personal recognition to individual chemists. During the past year twelve new Honorary Members' names have been added to the rolls.

The Gold Medal of the INSTITUTE this year goes to Dr. Walter J. Murphy, Editor of *Chemical & Engineering News*, *Industrial & Engineering Chemistry* and *Analytical Chemistry*, in recognition of his success in making chemists and their work better known to each other. Mutual friendship and help among chemists have

brought about greater progress in the chemical profession.

THE CHEMIST has become an increasingly important source of professional information. Particular attention is directed to the articles by Professor Lewis and Professor Adams during the past year. The members of the INSTITUTE are again earnestly requested to make their contribution to the professional literature. The desired articles are relatively short, preferably one thousand words. They are very widely read, and they are a real contri-

bution to the advance of the profession.

The officers and council have actively continued to take every opportunity to correct inequities in the profession and to assist chemists whenever possible, so that their successful accomplishments may lead to greater progress in the profession.

The President has enjoyed the cooperation of the officers, the councilors, the committees and the chapter officers and wishes to express his very sincere thanks for their assistance.

Lawrence H. Flett, President AIC.

Annual Report of the Secretary

1949 - 1950

The National Council held ten meetings during the year, with an average attendance of thirteen officers and councilors. The following actions upon membership were taken:

Elections

Honorary	5
Life	1
Fellows	106
Members	26
Associates	36
	174

Reinstatements

Fellows	2
	Loss of Membership

Resignations

Fellows	36
Members	16
Associates	12
	64

Dropped

Fellows	5
Members	3
Associates	15
	23

Deceased

Fellows	13
Members	1
	14
Total Increase of Membership	176
Total Loss	99
Net Increase in Membership	75

Actions

Life to Honorary	1
Fellows to Honorary	6
Fellows to Life	3
Members to Fellows	5
Associates to Members	1

TOTAL MEMBERSHIP AS OF MAY 1950

Fellows	1835
Members	301
Associates	256
Life Members	44
Honorary	24

Total 2460

It is with deep regret that we record the following deaths during the year:

Homer Adkins (F)
V. Joseph Altieri (F)
Monroe J. Bahnsen (F)
R. S. Cook (F)
Vincent J. Farley (M)
Charles L. Gabriel (F)
A. H. Grimshaw (F)
Hugh M. Huffman (F)
Harvey Kittredge (F)
Norris R. Kosches (F)
E. C. Merrill (F)
William Ralston (F)
Charles S. Reeve (F)
George C. Supplee (F)

This year we have welcomed 176 new members into the INSTITUTE.

The following Fellows of the INSTITUTE were elected to Honorary Membership: Dr. Roger Adams, Frank G. Breyer, Dr. Gustavus J. Esselen, Dr. Harry L. Fisher, Dr. Alexander Schwarcz, Dr. Charles A. Thomas and Dr. John W. Thomas.

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Honorary Membership was also conferred on the Medalist of THE AMERICAN INSTITUTE OF CHEMISTS.

All members of the INSTITUTE who did not belong to a local chapter because they lived outside a chapter area, were assigned to the nearest local chapter. It was thought this would give all members an opportunity to cooperate, if only by correspondence, in activities of interest.

A new chapter of the INSTITUTE was organized by John B. Calkin, F.A.I.C., to be known as the New England Chapter. Its first organizational meeting was held March 20th, in Boston, Massachusetts.

Paul H. Horton, F.A.I.C. arranged a special INSTITUTE Breakfast for A.I.C. members attending the A.C.S. Regional Meeting in Oklahoma City in December. A program of excellent talks by members was arranged.

A suggested model Constitution for chapters to use as a guide was prepared by the Committee on Chapter Constitutions.

At the request of Dr. J. W. E. Harrison, A.I.C. delegate to the newly formed American Board of Clinical Chemistry, the Council contributed \$250.00 to the Board's organizational funds.

A directory of INSTITUTE members was prepared to correspond with our records, and sent to each member.

The many interesting activities of the chapters and committees of the A.I.C. will be found in the reports available at this Annual Meeting.

Credit and appreciation are extended to the many members of the INSTITUTE who have given generously of their personal time and effort to advance the professional status of chemists.

—Lloyd Van Doren, Secretary

Report of Committee on National Legislation Affecting Chemists

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YOUR Committee on National Legislation Affecting Chemists presents its report on significant legislation which bears upon the status of chemists.

Three fields of legislation are discussed. The first concerns the National Science Foundation; the second refers to Synthetic Liquid Fuels Plants; and the third to the Water Pollution Control Act.

1. National Science Foundation

The beginning of a National Science Foundation goes back to 1941 when President Roosevelt requested Dr. Vannevar Bush to submit a report on a postwar science program. This beginning crystallized into proposed legislation which President Truman requested of Congress in 1945, when he urged the establishment of a federal research agency. Extensive hearings followed and numerous bills were presented in Congress. The sole survivors of these many attempts are S. 247 and H.R. 4846, which authorize the President to appoint the director of the foundation. S. 247 was passed by the Senate last year. On March 1, 1950 the House approved H.R. 4846, with amendments. Since there are some differences between the Senate and House bills, a reconcilia-

tion must be effected by conference between the two bodies.

When the House bill came up for discussion during the current session, congressmen were much disturbed over the sensational disclosures connected with the case of Dr. Klaus Fuchs, since sentenced to prison in Britain for betrayal of atomic energy secrets. Therefore, various amendments were proposed requiring that persons who would operate under the Foundation be subjected to loyalty checks by the FBI. As finally adopted in the House, the bill requires (1) loyalty checks on employees of the Foundation and on scholarship recipients, and (2) checks on foreign nationals who may be associated with the Foundation. Considerable protest has arisen over this added feature and it is not certain whether the loyalty provisions will survive. Carrying the weight of the Council of the National Academy of Sciences is the following excerpted declaration:

"This country has grown strong by encouraging individual freedom of exploration in all fields of human endeavor. To let this freedom be limited by state-imposed conformity would be

to lose the birthright which is our greatest strength."

Alfred N. Richards, president of the Academy, in writing to President Truman adds his own view (quoted in part):

"Our concern centers on the amendment introduced by Rep. Smith of Virginia which provided for FBI investigation and clearance of every person who is to be awarded a scholarship or fellowship under the terms of the bill. We are convinced that this provision, if made into law, would so distort the purpose of the original bill as to work serious damage to the development of science in the United States and to those persons upon whom that development depends."

Functions of the Foundation are:

- (1) to develop a national policy dealing with basic research;
- (2) to initiate and support basic scientific research in mathematical, physical and other sciences, through contracts or otherwise;
- (3) to initiate and support scientific research relating to the national defense;
- (4) to award scholarships and graduate fellowships in the several sciences;
- (5) to foster interchange of scientific information among scientists in the U.S. and abroad;
- (6) to evaluate and correlate public and private research programs;
- (7) to establish any special commissions deemed necessary for the Foundation; and;
- (8) to maintain a register of scientific and technical personnel.

Of the 24-member board appointed by the President 8 will serve for 2 years; 8 for 4 years, and 8 for 6 years, so that a third of the board is appointed every 2 years. One of these members is to be director at an annual salary of \$15,000, and will also be chairman of the Executive Committee consisting, besides the director, of 9 other members of the Board.

Four divisions are established and others may be added later. The four are for (1) medical research, (2) mathematical, physical and engineering sciences, (3) biology, and (4) scientific personnel and education.

With reference to patent rights, the bill provides that each contract shall contain provisions governing the disposition of inventions. This individual treatment apparently recognizes the difficulty of writing a single formula adaptable to all situations.

The Foundation is authorized to cooperate internationally in research activities, under the aegis of the Secretary of State.

In all its activities the Foundation is not, itself, to operate any laboratories or plants. Such work is to be done only by other agencies, private or public. The Foundation may concern itself with atomic energy research only after concurrence with the Atomic Energy Commission.

The House authorized an appropriation of \$500,000 for the Foundation for the fiscal year ending June 30, 1951 and not to exceed \$15 million annually thereafter.

Controversial issues are reduced to a small area in the present bill. The general feeling is that the Congressional conferees will succeed in making necessary compromises and that the bill in its final form will be acceptable to the President. The phase of chemistry in the National Science Foundation is not at all defined and will require much attention on the part of chemists.

2. Synthetic Liquid Fuel Research

Your committee reported last year on two bills presented in Congress, S. 6 and H.R. 566, providing for research on liquid fuel processes and for the construction of synthetic liquid fuel plants, these activities to be under the Department of the Interior and the Reconstruction Finance Corporation. Loans up to \$350 million are authorized in the bills, which are identical. In an amended S. 6 bill, Senator McCarran proposed raising the loan authorization to \$650 million. Up to the present time very little progress has been made on these bills. S. 6 has not been reported out of committee and hearings have not been scheduled. H.R. 566 has been referred to various governmental departments for comments and approximately half of the interested agencies have submitted statements.

In regard to the status of the synthetic fuel bills, the National Petroleum News

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Bureau in Washington reports as follows in their March 22, 1950 issue on page 16: "The White House has sent word to Interior Department and Capitol Hill that President Truman desires no action this year on legislation to create an experimental commercial-sized synthetic liquid fuels industry. Reason advanced is that the President is opposed to any new appropriations, not absolutely necessary, which would increase size of federal budget. In addition, White House noted that present adequate domestic supply of petroleum makes synthetics program one which can be put off to later date."

3. Water Pollution Control Act

At the 23rd Annual Meeting of the Ohio Sewage and Industrial Wastes Treatment Conference, held June 22-24, 1949, at Cleveland, Ohio an extensive analysis of the Water Pollution Control Act was presented. This analysis was printed in the February 1950 issue of *Sewage and Industrial Wastes* (formerly *Sewage Works Journal*), p. 239.

In addition to analysis of the Act, it was reported that an appropriation of \$2,725,000 for the fiscal year 1949 had been made. This is 10 per cent of the annual authorized appropriation. With these funds substantial progress has been made in the perfecting of an organization to carry out the purposes of the Act.

The following extracts from a private communication from V. G. MacKenzie, Officer in Charge of the Environmental Health Center of the Public Health Service, indicate the lines along which advances have been made:

(A) Officers for ten river basins covering the entire area in the United States have now been organized and staffed.

(B) The Water Pollution Control Advisory Board has approved a proposal to organize a National Task Committee on Industrial Wastes comprising 25 technical representatives of various industries, with subcommittees in each industry. A total personnel of 150 to 200 outstanding technical persons is contemplated. Nine objectives have been set up for this task force summarized as follows:

- (1) to coordinate and promote research and development work on utilization, treatment, and control of wastes;
- (2) to achieve uniformity in methods of evaluating trade wastes;
- (3) to stimulate more effective working

relationships between industry and Federal, State, and local governmental agencies;

- (4) to aid in establishing grants-in-aid for obtaining basic information relative to industrial waste problems;
- (5) to point up activities on industrial wastes at the Environmental Health Center;
- (6) to stimulate adoption of practical methods for minimizing and treating wastes;
- (7) to secure wide dissemination of information on technical progress through contacts with technical societies and other groups issuing publications;
- (8) to aid in promoting training activities; and
- (9) to perform such other technical tasks as will improve the quality of the water resources of the nation.

The Environmental Health Center has conducted active research in certain specific fields, notably pollution due to radioactive substances and wastes of the sugar beet and steel industries and of gas plants. Irrigation waters and bathing beaches have also come in for consideration.

The President has transmitted a re-organization plan to the Congress which would transfer to the Public Health Service the responsibilities of the General Service Administration in the Water Pollution Control Program.

—L. N. Markwood, Chairman
A. M. Buswell
Gustav Egloff
Eduard Farber

August 30, 1950

Postscript: Congress finally passed the bill establishing the National Science Foundation and, following the President's signature, it became law in May 1950. Controversial security measures in the bill before passage were resolved by simply requiring loyalty affidavits and the usual oath of allegiance to the United States. Only in the case of work undertaken for the Department of Defense and Atomic Energy Commission will special security requirements prevail.

The bill authorizes an outlay of \$500,000 for the first fiscal year, ending June 30, 1951. Initial hopes for early appro-

priation of this sum were set back when on August 24th, the House Appropriations Committee rejected the President's request for \$475,000. No expression adverse to the Foundation accompanied rejection as the Committee recommended deferment on the ground that the activity "will not provide early aid to our defense effort."

This action can only be characterized as shortsighted and misguided. It can never be too soon to start basic research, prime aim of the foundation, and the United States cannot afford to exist without an all-out research program. It is unbelievable that the small sum requested, less than the cost of a single warplane, should stand in the way of starting this enterprise. Results may not contribute "early aid to our defense effort" but they may not come too late to do good. The present struggle in Korea, instead of providing an excuse for deferment, should provide every reason for prompt affirmative action. Your Committee is of the opinion that the provision of the bill calling for a sum to be appropriated for 1950-51 should be implemented.

—L. N. Markwood, Chairman

Alcoa Research

The Aluminum Company of America dedicated its new research laboratory at its East St. Louis, Illinois, plant, on May 24th where guests, welcomed by Dr. Francis H. Frary, director of research, inspected the attractive, three-story, brick-faced building with its 33,000 square feet of floor space. The new laboratory building features generous window space (forty-five per cent of the outer surface is occupied by windows), air conditioning, utility and convenience throughout.

The East St. Louis laboratory, one of four of Alcoa's research centers, was established in 1923 by Glenn H. Wagner, F.A.I.C., as a two-man

operation. The laboratory has grown steadily until today it employs some one-hundred persons. Most of the early employees are now in administrative positions. Mr. Wagner, who has guided the laboratory to its present prominent position, is the local administrative head and assistant director. The integration of research activities is carried out by Dr. J. W. Newsome, chief of the laboratory since 1947. The work of this research center is predominantly chemical rather than metallurgical. It studies the uses of aluminum in ceramics, rubber, paper, as catalysts, and in other applications. Fluorides are also a subject of continuous investigation.

The notable contributions of this laboratory include the Alcoa Combination Process for low-grade bauxite; improvements in the standard methods of obtaining alumina, and the development of the dry process for making aluminum fluoride.

Gallium, a by-product of the Bayer process of obtaining aluminum, is currently being studied. Dr. Frary pointed out that "it has the unique property of being, like mercury, a liquid at ordinary temperatures. Unlike mercury, however, it is non-poisonous, and its boiling point is above white heat . . . We hope that further work will develop industrial uses for this metal, and for this reason, we have offered special inducements to investigators who desire to experiment with it."



COUNCIL

OFFICERS

President, Lawrence H. Flett

Secretary, Lloyd Van Doren

President-elect, Lincoln T. Work

Treasurer, Frederick A. Hessel

COUNCILORS

Harry Burrell, *New Jersey Chapter*

Harold A. Levey, *Louisiana Chapter*

C. C. Concannon, *At-Large*

Martin Meyer, *New York Chapter*

M. L. Crossley, *At-Large*

C. P. Neidig, *At-Large*

Gustav Egloff, *Chicago Chapter*

L. F. Pierce, *Los Angeles Chapter*

Gustav Egloff, *Past President*

Donald Price, *At-Large*

G. J. Esselen, *At-Large*

Louis N. Markwood

Raymond Stevens

Washington Chapter

New England Chapter

H. Robinette, *Pennsylvania Chapter*

M. J. Hiler, *Ohio Chapter*

Maurice Siegel, *Baltimore Chapter*

L. B. Hitchcock, *At-Large*

Foster D. Snell, *Past President*

H. O. Kauffmann, *Niagara Chapter*

Florence E. Wall, *At-Large*

R. H. Kienle, *At-Large*

James R. Withrow, *At-Large*

June Meeting

The 268th meeting of the National Council of THE AMERICAN INSTITUTE OF CHEMISTS was held June 14, 1950, at 6:00 p.m., at The Chemists' Club, New York, N.Y. President-elect Lincoln T. Work presided.

The following officers and councilors were present: Messrs. Harry Burrell, M. L. Crossley, F. A. Hessel, Maurice J. Kelley, R. H. Kienle,

C. P. Neidig, C. W. Rivise, H. Robinette, F. D. Snell, L. Van Doren and Miss Florence E. Wall. W. J. Baeza, K. M. Herstein and V. F. Kimball were present.

Dr. Work announced that the following committee appointments had been made by President Flett:

Executive

L. H. Flett
L. T. Work
F. A. Hessel
L. Van Doren

Professional Education

J. R. Withrow
 M. L. Crossley
 C. C. Concannon
 F. E. Wall
 M. J. Hiler

Honorary Membership

G. J. Esselen
 L. B. Hitchcock
 J. J. Healy
 W. J. Murphy
 W. G. Parks

Life Membership

R. H. Kienle
 G. Egloff
 L. N. Markwood
 H. O. Kauffmann
 J. W. H. Randall

Nominations

L. H. Flett
 L. T. Work
 L. Van Doren
 All Chapter Chairmen

Jury on Medal Award

H. L. Fisher
 G. Egloff
 L. H. Flett
 F. D. Snell
 L. Van Doren

Qualifications

D. Price
 C. P. Neidig
 M. Meyer
 K. M. Herstein
 W. L. Prager

Membership Committee

(Chairman to be announced)
 F. D. Snell
 M. L. Crossley
 G. Egloff
 M. Meyer

Patents

A. W. Deller

Ethics

H. Burrell
 H. Robinette
 Representative from
 Baltimore Chapter
 H. O. Kauffmann
 L. K. Riggs

National Legislation Affecting Chemists

L. N. Markwood
 G. Egloff
 E. Farber

Dr. Kelley, as chairman of the Committee on Arrangements for the 1950 Annual Meeting, presented a report of the attendance and financial summary of the meeting, showing that income amounted to \$217.02 more than expenses.

A special vote of commendation was given to President Flett, and to Drs. Work and Kelley as chairman of the Committees on Program and Arrangements for the Annual Meeting.

The Treasurer's report was presented and accepted.

The Secretary reported that the total number of AIC members is now 2,475.

A petition to establish an AIC Chapter in the State of Alabama, signed by eleven Fellows of the INSTITUTE who reside in that state, was presented. Upon motion, the petition to form an Alabama Chapter was granted.

A letter from Dr. Robert E. Swain, thanking the Council for its action in awarding him Honorary AIC Membership, was presented.

A letter was presented from the Dean of Georgetown University, thanking the AIC "for the encouragement you are giving our students in the field of chemistry."

COUNCIL

Dr. James R. Withrow, chairman of the Greetings Committee of the Annual Meeting, made the following report:

'Pursuant to your instructions, the duties of this Committee were performed: (1) Presence throughout meeting in Hotel New Yorker. (2) Whenever a member was found alone, we joined with him, made him welcome and left when he became engaged with others. (3) It was found that members, from most distant points, recognized old acquaintances and were at home at once. (4) There never was, in my experience, a more friendly meeting in this regard. (5) Many members and officers went out of their way to help individuals. (6) The Registration Committee was in constant self-denying attendance to the very end of the meeting, so that late-comers could be taken care of.'

A report from the Committee on Economic Status of Chemists of the Chicago Chapter was submitted to the Council with the request that the National Council take action, with reference to the revised Fair Labor Standards Act:

Upon motion, the Secretary was asked to write to the Wage and Hour Division Administrator asking him to use the same basis to establish the minimum salary figure for professionals that was used in raising the minimum wage provision, i.e., an increase of 87% to \$375.00 per month; that this suggestion is made without approving the criteria from which the present definition of "professional" in the Act was derived.

Dr. Kelley reported that the most recent meeting of the New York Chapter was held on May 24th, at

which the Honor Scroll was presented to Dr. W. E. Kuhn, student medals were presented, and elections were held.

The proposed employment project to be sponsored by the Institute was presented. Dr. Kelley reported the progress made by the New York Chapter. Dr. Baeza summarized the present status of the project. The Council then resolved into a Committee of the Whole for discussion. Following the discussion, the following motions were made: That Dr. Lloyd Van Doren be appointed by the Council, with power to add others to help him, to cooperate with the Committee and Council of the New York Chapter to work out the legal aspects of the proposal as discussed; and to report back to the National Council for final decision. It is understood that the legal aspects of the proposal include those required for the protection of the rights and good name of the AIC.

That the Council instruct Dr. Van Doren's Committee to carry into the discussion with the New York Chapter the following: (1) That the project is to be of a non-profit nature. (2) That the appeal to the national membership make it clear that the project envisions a separate corporation from that of THE AMERICAN INSTITUTE OF CHEMISTS, but that it has AIC approval. (3) That the

project has been initiated by the New York Chapter, AIC, to be of service to AIC members and other chemists. (For this Employment Project, see page 345).

The following new members were elected:

FELLOWS

Berg, Frantz F.

Associate Director, Pharmaceutical Applications, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.

Brown, Kenneth R.

Director, Research and Development Department, Atlas Powder Company, Wilmington, Delaware

DuPuis, Robert Newell

Assistant Research and Development Director, Research and Development Division, S.C. Johnson and Son, Inc., Racine, Wisconsin.

Gisel, Eugene Alfred, S. J.

Chairman of Chemistry Department, Fordham University, New York 58, New York

Harlow, Edward Swain

Coordinating Division Head, Research Laboratory, American Tobacco Company, Richmond 24, Virginia

Hesselbart, Robert C.

Chief Chemist, Mid-West Abrasive Company, 510 W. Washington, Owosso, Michigan

Kronstein, Max

Research Associate, Research Division, Adjunct Associate Professor, Department of Chemical Engineering, College of Engineering, N.Y.U., University Heights, N.Y.

Maguire, Richard G.

Associate Organic Chemist, Chemistry, and Chemical Engineer, Armour Research Foundation, Technology Center, Chicago 16, Ill.

Makara, Frank

Patent Lawyer, 3303 Foster Avenue, Brooklyn 3, New York

McColley, Earl Stanley

Chief Chemist, Celanese Corporation of America, Rock Hill, S.C.

Murray, Robert Lindley

Executive Vice President, Hooker Electrochemical Company, Niagara Falls, New York

Ransford, J. E., S. J.

Assistant Professor, University of Santa Clara, Santa Clara, Calif.

Shepard, Morris Goodwin

Commercial Development Manager, Naugatuck Chemical Division of U.S. Rubber Company, Naugatuck, Connecticut

Shreve, R. Norris

Head, Chemical Metallurgical Engineering School, Purdue University, Lafayette, Indiana

Shukis, Anthony John

Assistant Director of Labs., Research Dept., Dodge and Olcott, Inc. 61-75 Avenue A, Bayonne, New Jersey.

COUNCIL

MEMBERS

Demsker, Robert Charles

Chief Chemist, R. H. Macy's Bureau of Standards, Herald Square, N.Y.

Jones, Pershing V.

Sales Engineer, Agrashell, Inc., 640 N. 13th Street, Easton, Pa.

Rader, George B.

Chief Chemist, Jersey Testing Laboratories, Newark 5, N. J.

ASSOCIATES

Amend, Eleanor Patricia

Student, Notre Dame College, 300 Howard Ave., Staten Island, N.Y.

Cerbone, Jacob Anthony

Chemist, Agava Products, 34 Exchange Place, Jersey City, N.J.

Fishman, Irving

Student, Brooklyn College, Brooklyn, New York

Forchielli, Americo Lewis

Chemist, Chem. Research Section, Technical Division, Picatinny Arsenal, Dover, New Jersey

Hawkridge, Eileen M.

Student, Notre Dame College, 300 Howard Avenue, Staten Island, New York

Kuczynski, Eugene

Analytical Chemist, Engineering Department, Burgess Battery Co., Freeport, Illinois.

Logan, Raymond Ellsworth

Senior Student, Class of 1950, Rutgers University, New Brunswick, New Jersey

RAISED FROM MEMBER

TO FELLOW

Baglivi, Nick John

Analytical Research Chemist, F. H. Levey Ink Company, Brooklyn, N.Y.

Special Courses

Dr. Raymond E. Kirk, F.A.I.C., announces that three of the five courses comprising the series in paint and resin technology pioneered by the Polytechnic Institute of Brooklyn, will be given in the fall semester. These are "Oil, Resin and Varnish Technology," "Paint and Pigment Technology," and "Technology of Resins and Plastics." The first two courses will be given by Dr. Henry F. Payne, F.A.I.C., of American Cyanamid Company, who is adjunct professor at Polytechnic; and the third by Dr. Paul F. Bruins, professor of chemical engineering.

Courses will also be given on the "Economic Balance in Chemical Manufacture," "Safety Practices in Chemical Engineering," and "Chemical Plant Location," during the 1950-51 academic year. The courses are open to qualified men from industry.

Kimball Elected

Cyril S. Kimball, F.A.I.C., vice president of Foster D. Snell, Inc., New York, N.Y., was elected president, for 1950-1951, of the Rhode Island State College New York Alumni Association.

Local Chapter News

C. P. Neidig, F.A.I.C.

AIC Student Medalists

Chapters of THE AMERICAN INSTITUTE OF CHEMISTS awarded student medals to the following college and university seniors who were recognized for "leadership, excellence in scholarship, and character":

Chicago Chapter

Arthur A. Anderson
Northwestern University
Robert L. Baldwin,
University of Wisconsin
Donald Robert Bentz,
University of Chicago
Richard A. Glass
University of Notre Dame
Thomas L. Kelly,
Purdue University
Paul Melius
Bradley University
Martha Ann Oyler
Monmouth College
Richard Priest
University of Illinois
Richard Sears
Lawrence College
Jerry G. Seidel
Beloit College
Anthony M. Trozzolo,
Illinois Institute of Technology
Donald L. Underwood
Wheaton College

New York Chapter

Darwin Arkow
Washington Square College,
New York University

Donald P. Cameron

Fordham University

Paul Goldberg

Brooklyn College

Albert Moscowitz

The City College of New York

Jack A. Offenbach

New York University

Kenneth F. Stripp,

Polytechnic Institute of Brooklyn

Charles Allen Thomas, III

Princeton University

Robert B. Voynow

Queens College

James S. Wood, Jr.

Rutgers University

Steven Wythe,

Columbia University

Niagara Chapter

Wilbur Richard Lauzau
Niagara University
John V. Morgan
University of Buffalo
Robert E. Moynihan,
Canisius College

Ohio Chapter

Dale Richey,
Hiram College

Washington Chapter

Albert Y. Garner
The Howard University
Philip Lincoln Hanst,
The George Washington University

LOCAL CHAPTER NEWS

Ralph Kirby

The Catholic University of America

Andrej Macek,

Georgetown University

Joe M. Parks,

University of Maryland

James Bruce Wagner

University of Virginia

Ohio

The first Annual Meeting of the Ohio Chapter was held April twenty-seventh. The group assembled at the Institute of Light at the General Electric Research Laboratories in Nela Park, Cleveland, at 11:00 a.m. The tour, under the direction of H. G. Schiller, was exceptionally interesting. Highlights of the tour were an artificial sundeck which duplicated a hot, sunny, summer afternoon; the Horizon House where the latest in lighting was displayed and an excellent film on fluorescence was shown. Luncheon at the modern cafeteria climaxed the program.

The business meeting was held at the Hotel Carter at 3:15 p.m., with Chairman Waters presiding. Besides the routine business, comments on the progress of the AIC were made by National President Lawrence H. Flett. Commenting on present conditions, he stated that "the large inventory of research is dangerously high" and that we should emphasize the commercial development of new products at this time.

The results of the annual election were announced:

Chairman, Dr. George F. Rugar

*Diamond Alkali Co.,
Painesville, Ohio*

*Chairman-elect, Dr. Otis D. Cole,
Firestone Tire and*

*Rubber Co.,
Akron, Ohio.*

Secretary-treasurer,

Harold M. Olson

*Harshaw Chemical Co.,
Cleveland Ohio*

Representative to National Council,

Dr. Malvern J. Hiler

*Commonwealth Engineering Co.,
Dayton, Ohio*

Cincinnati Director,

Simon Mendelsohn

*Cincinnati College of Pharmacy,
Cincinnati, Ohio*

Director-at-Large,

Dr. Julian H. Toulouse

*Owens-Illinois Glass Co.,
Toledo, Ohio*

At the close of the business meeting, a talk on "National Problems and the Chemist," by Dr. Harry N. Holmes of Oberlin College, held the interest of the group. Dr. Holmes stated that most people are worried, often unnecessarily, concerning supplies of critical materials in the future. The chemist will have to allay these fears by replacing them before they are too critical. Things such as smogs, the curing of deadly diseases, corrosion, deterioration,

atomic energy, etc., are a few of the problems concerning the public in which the chemist will continue to play increasingly important roles.

Following Dr. Holmes' talk, an enjoyable informal reception was held in the Harvest Room, after which an exceptionally good filet mignon dinner was enjoyed in the Spanish Room.

After the dinner, Chairman Robert B. Waters welcomed the members and guests before Dr. Herman A. Bruson talked about the accomplishments of Dr. James R. Withrow. A high tribute was paid to the man who furthered "the finer things of life." He was a great humanitarian at the same time he was contributing to the profession of chemistry. Several former students and associates contributed to the program by giving short impromptu talks eulogizing Dr. Withrow. Among those contributing were Gordon Mutersbaugh and Paul Mowen of Cleveland; D. C. Butts of Akron; Dr. C. C. DeWitt of Michigan State College, East Lansing, and Dr. J. H. Koffolt of the Ohio State University.

President Flett presented Honorary AIC membership to Dr. Withrow (See page 347).

In his response Dr. Withrow showed how chemists are guardians of the people through their leadership in "Safety Programs." As outlined, this includes not only the ordinary safety programs for accident

prevention, but the long range health programs and ways of improving living conditions as well. These things are important, and in this modern world chemists should be leaders showing how to be "my brother's keeper."

Los Angeles

Raymond J. Abernethy, F.A.I.C., a founder member of the Chapter, was the speaker at our June meeting. He most interestingly and entertainingly presented "Toxicology in the Coroner's Office," as seen through his many years of distinguished service. Unanimously the verdict was that this was one of the finest meetings of recent years.

A business meeting was held with the election of the following officers for the coming fiscal year:

*Chairman, Dr. Romeo P. Allard
Vice Chairman*

Chester H. Stephens

Secretary

Dr. Edw.

Treasurer

A. T. VANDENBERG

Wilfred McNeil Nobell
Representative to the National
Council, Dr. J. E. Bissell

*Delegate to the Los Angeles
Technical Societies Council*

Manuel Tubis

The new chairman and officers

edged vigorous continuation of the

chapter's intent to further good

science and fellowship and to establish hard-working committees to implement the program.

LOCAL CHAPTER NEWS

Several new members were introduced and made to feel like an integral part of the Chapter and prospective members were permitted to observe the workings of a typical chapter meeting.

Chicago Chapter

The 1950 Honor Scroll of the Chicago Chapter of THE AMERICAN INSTITUTE OF CHEMISTS will be awarded to Carl S. Miner. The presentation will be made at a dinner at the Furniture Club, Chicago, at 6:30 p.m., on October 13, 1950.

In addition to an address by Mr. Miner, the program includes Dr. Ward V. Evans, professor of chemistry, Loyola University, who will speak as a friend of Mr. Miner; Dr. F. N. Peters, vice president of the Quaker Oats Company, who will speak on Mr. Miner's scientific work, and Dr. Barbara Miner Parker, F.A.I.C., entomologist at the Miner Laboratories, who will speak on Mr. Miner as a parent and employer.

Reservations should be sent to Mr. R. F. Davis, Universal Oil Products Co., 310 South Michigan Ave., Chicago 4, Illinois.

Volwiler, New President

Dr. E. H. Volwiler, F.A.I.C., executive vice president of Abbott Laboratories, North Chicago, Illinois, for four years, is now president and general manager of the firm. He succeeded Raymond E. Horn, who became president emeritus.

Necrology

Edward C. Merrill

Edward C. Merrill, assistant vice president, Rexall Drug Company, Boston, Mass., died November 14th, 1949, at the age of sixty-eight. He was born at Shelburne Falls, Mass. The B.S. degree was conferred on him by Worcester Polytechnic Institute in 1906.

After experience with the Raritan Copper Works, F. W. Bird and Sons, and the U.S. Navy Department, he became chemist in the Drug Division of the U.S. Bureau of Chemistry. He left this position in 1918 to become chief chemist of the Rexall Drug Company, later attaining the position of assistant vice president.

Mr. Merrill spoke before many trade and technical associations in the medicinal field, published many articles, and held several patents. His interest and work in the drug industry brought him recognition as an authority and he was one of the best liked men in the industry for his qualities of character and friendliness.

He belonged to a number of societies. He joined THE AMERICAN INSTITUTE OF CHEMISTS in 1949.

Harley A. Nelson

Harley A. Nelson, assistant to the general manager of the Technical Department of the New Jersey Zinc Company, Palmerton, Pa., died

March 21st at the age of sixty.

Mr. Nelson was born in Herington, Kansas. He was graduated from McPherson College with the A.B. degree and from Kansas University with the A.B. and M.A. degrees. From 1917 to 1919, he was employed by the U.S. Bureau of Standards in the Miscellaneous Investigations Section. In 1919, he joined the New Jersey Zinc Company, raising successively from investigator in the Paint Section to chief of the Paint Section, to chief of the Paint and Ceramic Research Division, and to assistant to the general manager of the Technical Department.

He specialized in problems pertaining to the protective coatings industries, and was the author of several technical papers. He was a member of the American Association for the Advancement of Science, the American Chemical Society, and the American Society for Testing Materials. He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1936.

Charles S. Reeve

Charles S. Reeve, consultant, died of a heart attack, January sixth, at Clearwater, Florida, where he was spending the winter. He was born December 15, 1875, in Philadelphia, Pa. He received the B.S. in chemistry from the University of Pennsylvania.

His experience included work with

General Electric Company (1897-1900), Industrial Water Company (1900-1903), The Bureau of Surveys, Philadelphia, (1903-1906), the U.S. Department of Agriculture (1906-1909), the Bureau of Public Roads (1909-1918). In 1918, he joined the Barrett Company to direct research and development on coal tar products, bituminous paving, and water-proofing materials. He wrote extensively for the technical journals on coal tar products and bituminous materials. He retired in 1946 as technical advisor of the Barrett Division of Allied Chemical and Dye Corporation.

Mr. Reeve was a member of the American Chemical Society, the American Society for Testing Materials, and the American Wood Preservers Association. He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1927.

He leaves his wife and his son, Edward, of Englewood, New Jersey.

Civil Service Examinations

The U.S. Civil Service Commission, Washington 25, D.C., announces examinations for Chemist, Metallurgist, Physicist, \$4,600 to \$10,000 a year (Grades GS-9 to GS-15); and Mathematician, \$3,825 to \$10,000 a year (Grades GS-7 to GS-15). For information apply to the U.S. Civil Service Commission.

For Your Library

Fundamentals of Synthetic Polymer Technology

By R. Houwink. 1949. Elsevier Publishing Co., Inc. Elsevier Polymer Series. Vol. I. 258pp. 6½" x 9½". \$4.75.

An excellent introduction to the basic principles governing synthetic polymer technology. Clear, precise and containing enough facts and food for further thinking; it is above the usual dry enumeration of existing products and their properties. For the one who wishes to understand and follow the developments of the synthetic polymer industry, without making it a major task, this book can be highly recommended.

The chapters on polymers based on cellulose, manufacture of fibers and films, are somewhat too rudimentary for such long-established products.

—Dr. Rene Schwarz

Introduction to Color

By Ralph M. Evans. John Wiley & Sons. 1948. Cloth cover 340 pp. 7½" x 9¾". Illustrated with colored photographs and graphs. Price \$6.00

This is an important contribution to a study of the combined effects of color lighting, vision and mental action in interpreting color, thus combining the three rather enormous subjects of physics, psychology, and physiology. It requires creative writing and independent collating of information to compress all the essential elements of such a broad study into a book of this size. The author has ably done so and has made use of colored photographs to convey a meaning beyond the facts in this text.

It is difficult to write on color and to cover thoroughly its various phases of measurement, application and processing, but the author has been successful in overcoming these difficulties, and at the same time has produced a book which is completely non-mathematical, and which does not presume that the reader may be versed in the deep phases of either physics or psychology. In these factors alone,

Mr. Evans has produced a book which can be of immense value to color chemists who may be operating in textiles, paper, and leather. These fortunate readers will have acquired a short-cut to desired information of importance to their projects. We recommend the book to individual chemists, laboratories, and for general use.

—W. F. Leggett

Statistical Methods in Research and Production

Edited by Owen L. Davies. Oliver and Boyd, Edinburgh and London. 2nd ed. revised. 6" x 10". 28 s. Net.

This handbook of statistical methods for scientific and industrial research workers was written by a team of chemists, engineers, and statisticians engaged on research and process work.

The usual methods of statistics are well-explained, and many applications and examples are given. The impression which is given by some of the examples is that more attention should be paid to the control of variables and less excuse given for deviations by reference to that obscurantist operator, "chance." In practice, the occurrence of variable results means that more attention should be directed to operation, and hence, a statistical analysis may be useful for the direction of controls.

—Dr. John A. Steffens, F.A.I.C.

Les Diastases

By Paul Fleury and Jean Courtois. Librairie Armand Colin, Paris. 1948. 216 pp. 4½" x 6½". 180 fr.

In this vest pocket edition, the authors discuss in an ably condensed manner the following topics concerning enzymes: The natural state and localization of enzymes; Purification of enzymes; Constitution of enzymes; Kinetics of enzyme action; The Specificity of enzymes; Reversibility of enzyme action and biosynthesis, and Classification and discussion of the more important enzymes. The little volume contains 31 references. Biochemists desiring a bird's-eye view of enzyme chemistry will find *Les Diastases* interesting reading.

—Dr. Henry Tauber, F.A.I.C.

Chemical Books Abroad

Rudolph Seiden, F.A.I.C.

Theodor Steinkopff Verlag, Dresden-BL: *Lehrbuch der organischen Chemie*, by Wolfgang Langenbeck, 8th ed., 541 pp., 5 ill., DM 15. This is a well-known textbook of organic chemistry; the first part deals with simple organic compounds (aliphatic, aromatic, heterocyclic), while the second (special) part discusses more thoroughly carbohydrates, proteins, isoprene derivatives, dyes, alkaloids, and catalysis (with emphasis on enzymes).

• *Grundriss der Kolloidkunde*, by Erich Manegold, 1949, 84 pp., 45 ill., DM 5.50. A concise review of colloidal units, colloid systems (with a recommendation to normalize the nomenclature through international agreements), and application of colloid chemistry and its working methods • *Ergebnisse der physikalisch-diätetischen Therapie*, Vol. 3, by W. Heupke, J. Kuehnau and H. Lampert, 1948, 375 pp., 57 ill., DM 24. Articles of 11 experts discuss various findings of physical-dietary therapy, including radium emanation, vitamin E, Bircher diet and metabolism, etc.

Ernst Reinhardt Verlag, Basel: *Allgemeine und physikalische Chemie*, by W. Feitknecht, 1949, 302 pp., 78 ill., SFr. 6.40. With a minimum of mathematics, the author explains the basic ideas of general chemistry and, particularly, those of modern physical chemistry. It is a top-grade repertorium for those who are interested in up-to-date information in the fundamentality of their science.

Brüder Hollinek Verlag, Vienna, publishes in its popular-scientific book series called "Bios" the following (and many other) titles: *Wirkstoffe*, by W. Auerswald (92 pp., 45 ill., S 18.) dealing with ferments, vitamins and hormones; *Chemie des Lebens*, by A. Peham (101 pp., 19 ill., S 18.) describing the biochemical processes behind the phenomena of animal and plant life; and *Die physiologischen Grundlagen unserer Ernährung*, by C. Schwarz-Wendl (60 pp., S 10.) a physiology of human nutrition, with many tables listing the composition and nutritive value of foodstuffs.

Ferdinand Enke Verlag, Stuttgart: *Chemie der Eiweißkörper*, by Ernst Waldschmidt-Leitz, 1950, 187 pp., DM 16. A monograph on proteins, emphasizing their chemical properties, but also briefly discussing their physical-chemical characteristics and their physiological transformations; with 545 references, mostly from non-German literature sources.

Verlag Chemie, Weinheim-Bergstrasse: *Die Genfer Nomenklatur in Ziffern*, by Wolfgang Gruber, 1950, 72 pp., DM 4.50. The author proposes a new system of nomenclature of organic compounds which proves to be a synthesis of G. M. Dyson's notation and enumerative system and the rules of the Geneva Nomenclature. The Gruber system seems to be simpler than the well established Dyson system, much better than the Dupont system, more practical than the Gordon system, and of wider range than the Patterson and Taylor systems. It is worth consideration by American chemists concerned with the very important problem of finding a rational system for simplifying the indexing of the many organic compounds developed every year.

• *Der Lizenz-Vertrag und die internationale Patenteverwertung*, by Ernst Neubert, 1949, 100 pp., DM 3.80. Contains advice for those who wish to sign license contracts for the use of patents in Germany and abroad.

Wissenschaftliche Verlagsgesellschaft, Stuttgart: *Taschenbuch der modernen Parfümerie und Kosmetik*, by H. Janitsyn, 2nd ed., 352 pp., DM 17. A survey of the physical and chemical properties of the raw materials used in the manufacture of perfumes and cosmetics, and a large number of sample formulas.

• *Geschichte der Pharmazie und Chemie*, by H. Valentin, 3rd ed., 128 pp., DM 7.50. In the form of chronological tables, 5000 years of the history of pharmacy and chemistry are condensed into about 100 pages of text. Developments in Germany are considered more fully than those in other countries. • *Allgemeine und anorganische Chemie*, by Robert Klement, 1949, 523 pp., DM 24.50. The first part (216 pages) is dedicated to the explanation of the fundamental facts of general chemistry, while the second part differs from other books on inorganic chemistry

in that it (after discussing the free elements) groups the compounds into H, halogen, O, S, carbon and cyanide salts of the elements according to their positions in the periodic system. • *Lebensmittelchemisches Taschenbuch*, by F. Egger, 1950, 512 pp. DM 44. A compilation of German foodstuff laws including brief information as to the methods to be used for their chemical analysis.

Harvey & Blythe, London W. C. 2: *Medicine and Science in Postage Stamps*, by W. J. Bishop and N. M. Matheson, 1948, 82 pp., 7 s. 6d. Stamp collectors may enjoy this little book which brings half-tone reproductions of nearly 150 stamps and 23-pages of brief biographical data. Among the chemists who should be considered in a new edition are Carver, Charles W. Eliot, Whitney, McCormick, Farrer, Wellsbach, Nobel, Nicéphore, Daguerre, and Weizmann.

Leonhard Hill, London W.1, has just published the 22nd edition of *Chemical Industries*, by E. N. Tiratsoo. This is a revision of the book recently mentioned in this column. Even though it is more up-to-date, it contains fifty pages less (350) than the previous edition. The price is 30 s.

Leonhard Hill, Ltd., London W.1: *A Concise Applied Pharmacology and Therapeutics*, by F. G. Hobart and G. Melton, 3rd ed., 234 pp., 21 s. The authors keep the promise given in the title of their excellent book: They discuss briefly the action of the more important drugs in relation to practical therapeutic considerations, placing emphasis on the latest developments of science and industry.

Dastane Brothers' Home Service Ltd., Poona 2; *An Elementary Textbook of Organic Chemistry*, by D. D. Karve, 6th ed., 192 pp., 29 ill., Rs. 2-12-0. An introduction into organic chemistry for students of Indian universities. It is surprising that the book does not even mention aromatic compounds containing two or more benzene nuclei or the heterocyclic compounds. If the author could be induced to add these chapters in the same clear and condensed form which characterizes his book, he would greatly increase its usefulness.

Information

"Circular C477, Testing of Hydrometers." 9 pp. 10 cents. Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

"Rubber Developments." Issued by the British Rubber Development Board, Market Buildings, Mark Lane, London E.C.3, England. September 1949. Copies are available from the British Rubber Development Bureau, 1631 K Street, N. W., Washington, D.C.

"Census of Manufacturers, 1947, Miscellaneous Chemical Products." U.S. Department of Commerce, Bureau of the Census 1949. Order from Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. Price 15 cents.

Lists of Atomic Energy Commission Documents, issued by Technical Information Branch, Oak Ridge, Request from Document Sales Agency, U.S. Atomic Energy Commission, P.O. Box 62, Oak Ridge, Tennessee.

"Corrosion Resistant Materials and Equipment. Bulletin M." The U.S. Stoneware Company, Akron 9, Ohio.

"All-Metal Slide Rules" and "Engineering 10-inch Log Log Slide Rule Simplified by New 'Double Scale'." Pickett & Eckel, Inc., 1111 South Fremont Ave., Alhambra, California.

"Dunbar Glass Cylinders." Catalog, Dunbar Glass Corporation, Dunbar, West Virginia.

"Catalog of Translations of German Patents and Research Papers in the Field of Drugs and Vitamins." Research Bulletin No. 38. Research Information Service, 509 Fifth Avenue, New York 17, N.Y.

"New Eye Wash Fountain and Safety Shower." Information sheet. Haws Drinking Faucet Company, 4th & Page Streets, Berkeley 10, Calif.

Spectroscopy Meeting

The Society for Applied Spectroscopy will meet October third at 8:00 p.m. at the Socony-Vacuum Training Center, 63 Park Row, New York, N.Y. Dr. Bruce Billings of Baird Associates, Inc., will speak on "Right and Left in Optics."

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**Electrochemical Society
Meeting**

Seventy papers on batteries, corrosion, electrodeposition, and electro-organic chemistry, will be presented at the 98th meeting of The Electrochemical Society, to be held at the Hotel Statler in Buffalo, New York, October 11 to 13, 1950. Information may be obtained from Henry B. Linford, Secretary, The Electrochemical Society, 235 West 102nd Street, New York 25, N.Y.

**Hovey Joins Archer-Daniels-
Midland**

Almon G. Hovey, F.A.I.C., chemical consultant on coatings and binders, Oshkosh, Wisconsin, joined the research division of Archer-Daniels-Midland on July first. For eleven years he directed research for Beck Koller and Company (now Reichhold Chemicals, Inc.). He was later in charge of the Chemical Division of General Mills, in Minneapolis.

**Holler Becomes Chemical
Director**

Albert C. Holler, M.A.I.C., has been appointed director of the Chemical Division of Twin City Testing and Engineering Laboratory, St. Paul, Minnesota, where he formerly served as chief analytical chemist. Recently, he attended the ASTM meeting in Atlantic City, New Jersey.

Condensates

Ed. F. Degering, F.A.I.C.

Armour Research Foundation

The end served by the study of *pure* science is the growth of mankind in the good attainable through merely understanding the world; that is, the advance in truth and goodness which is possible for men who study nature through science. The end served by *applied* science is the control of nature, its manipulation for the material welfare of men. Technology is the application of the knowledge won by pure or applied science, in working out and practising techniques for the control of material nature; and whereas scientific research is concerned with winning and organizing knowledge, technological research is concerned with the application of that knowledge for extra-scientific purposes.

—E. F. Caldin

First among the evidences of an education I name correctness and precision in the use of the mother tongue.

—Nicholas Murray Butler

"Youth is not a time of life—it's a state of mind. Nobody grows old merely living a number of years. People grow old by deserting their ideals. Years wrinkle the skin, but to give up enthusiasm wrinkles the soul.

"Worry, doubt, self-distrust, fear and despair—these are the long, long years that bow the head and turn the growing spirit back to dust. Whether you are seventy or sixteen, there is in the heart of every human being the love of wonder—the sweet amazement at the stars and the starlike things and thoughts—unfailing childlike appetite for what is coming next—and the joy and game of life.

"You are as young as your faith and as old as your doubt; as young as your self-confidence and as old as your fear; as young as your hopes and as old as your despair."

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- EVAPORATORS
- CRYSTALLIZERS
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Many stills, dryers, evaporators, crystallizers and other processing vessels are operating at vacua limited by the vapor pressure of the condensate. This means on the average an absolute pressure of about 2.0" Hg. Most owners of such equipment do not realize how practical and economical it is to put a Booster Evactor in the line between the vessel and the condenser and maintain an absolute pressure of 0.5", 0.25" or even lower. The benefits of this higher vacuum in improving quality and capacity are often very substantial.

The steam jet type of vacuum pump has continually gained in favor for high vacuum in industrial process work. The

total absence of moving parts is a big advantage and means many years of service, with no maintenance cost. Available in single, two-, three-, four- and five-stage units for vacuum from a few inches up to a small fraction of 1 m.m. Hg. absolute.

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three per cent of the leather shoe market
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compositions.

Bird deaths have been reported follow-
ing the heavy application of DDT to elm
trees.

National Council Meeting

The National Council AIC, will
meet, October 11, 1950, at the
Chemists' Club, New York, N.Y.,
at 6:00 p.m.

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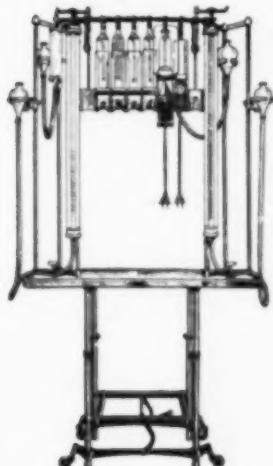
FISHER Unitized Gas-Analysis Apparatus

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and-SOCKET JOINTS

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Greater Convenience
+
Higher Accuracy



Below: a Fisher Unitized Gas-Analysis Assembly of the Precision Type, one of many models available with either rubber connectors or ball-and-socket joints.



For the first time, Fisher *Unitized Gas-Analysis Apparatus*, in either the Precision or Technical models, may be obtained with glass ball-and-socket joints in place of the conventional rubber connectors.

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